

REMARKS

Claims 1-14 are pending in the present application. Claims 1-14 stand rejected. Claims 1-11, 13, and 14 have been amended. Reconsideration of the claim rejections are respectfully requested in view of the following remarks and the preceding amendments.

Claim Objections

Claim 3 was objected to for including redundant claim language. Claim 3 has been amended to address this issue.

Claim Rejections – §101

The Examiner states on page 2 of the Office Action that claims 1-14 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter. Applicants respectfully submit that the Examiner has failed to present a *prima facie* showing that claims 1-14 are directed to non-statutory subject matter. The rejections are based essentially on the Examiner's finding that:

Claims 1, 13-14 and dependencies of claim 1 are rejected because a useful/tangible/practical/concrete, result/application/improvement/effect/advantage is not recited in claims 1, 13, and 14. (Slash = and/or) (see, **Office Action, page 2**)

Firstly, the Examiner applies an improper standard . As stated by MPEP 2106, "the claimed invention as a whole must be useful and accomplish a practical purpose".

Secondly, the Examiner makes a blanket assertion of non-statutory subject matter without providing an explanation as to why the subject matter of each of the claims are directed to non-statutory matter. In fact, the Examiner apparently recognized the scope and practical application of the claimed inventions, which is evidenced by the Examiner's prior art rejection using cited art (i.e. Gupta) in the class of design and analysis of circuit or

semiconductor mask (i.e., class 716), and the subclass of logical circuit synthesizer (i.e., subclass 18).

In any event, claims 1-11, 13, and 14 have been amended to better clarify the claimed inventions and are believed to be directed to statutory subject matter.

Accordingly, Applicants respectfully request that the 101 rejections be reversed.

Claim Rejections - §112, first paragraph

The Examiner states on page 3 of the Office Action that claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Examiner has failed to properly establish a rejection under the enablement requirement. As stated in MPEP 2164.04, “[i]n order to make a rejection, the examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention”, “examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure”, and “[i]t is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement”. Since the Examiner merely makes a blanket rejection of all the claims and provides no reasonable explanation as to why the scope of protection provided by each of claims 1-14 are not adequately enabled by the disclosure, the Examiner has failed to establish a lack of enablement.

Further on page 3 of the Office Action, the Examiner states that claims 1, 13-14 (and dependencies of claim 1) are rejected because the limitation “the structural metric being proportional to a routability of the circuit design model after the physical design”

finds no clear support in the disclosure. Applicants respectfully disagree. The limitation at least appears on p. 8, lines 17-19, *structural metric* is at least described on p. 14, line 3- pg. 15 – line 11, *routability* is at least described on pg. 2, lines 4-5, and *physical design* is at least described on pg. 2, lines 16-19. Therefore the limitation does find clear support in the disclosure. In any event, claims 1-11, 13, and 14 have been amended to clarify the inventions and are believed to find clear support in the disclosure.

Accordingly, Applicants respectfully request that the 112 first paragraph rejections be reversed.

Claim Rejections - §112, second paragraph

The Examiner states on page 3, of the Office Action that claims 1, and 13-14 are rejected because “*prior to a physical design*” in claims 1 and 13-14 is unclear and incomplete as to physical design. Applicants respectfully disagree. Based on the context of the preamble, it is clear that *prior to a physical design of the circuit design* is meant. In any event, claims 1 and 13-14 have been amended, and no longer recite “*prior to a physical design*”.

The Examiner further states on page 3, of the Office Action that claims 1 and 13-14 are rejected because “structural metric” is not defined in claims 1 and 13-14. Applicants respectfully disagree. As stated in MPEP 2111, “[d]uring patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification.” The cited portions of the disclosure above have at least described the structural metric as being a measure, at least described routability as a measurement of the relative ease of making appropriate connections on a chip, and at least described physical design as the assigning of a circuit a physical location on a chip implementing a circuit

design. Therefore, at least one interpretation of the “*structural metric*” that is consistent with the disclosure is, a measure being proportional to the relative ease of making appropriate connections on a chip of a circuit design model after assigning the circuit a physical location on the chip. In any event, claims 1 and 13-14 have been amended to recite *inter alia*, “*wherein the structural metric predicts congestion characteristics during optimization of the circuit design*”, which is at least supported in pg. 12, lines 20-23 of Applicant’s specification.

Accordingly, Applicants respectfully request that the 112, second paragraph rejections be reversed.

Claim Rejections - § 102

Claims 1-14 stand rejected under 35 U.S.C 102(e) as being anticipated by Gupta (U.S. Pub. 2004/0068711). It is respectfully submitted that, at the very least, Gupta does not anticipate claims 1, 13, and 14.

By way of example, with respect to claims 1, 13 and 14, it is submitted that Gupta does not disclose or suggest *during logical synthesis of a circuit design, generating a network graph from a logical representation of the circuit design* as recited *inter alia* in claims 1, 13 and 14. There is no mention in Gupta of generating a network graph from a logical representation of a circuit design during logical synthesis. Further steps 102-114 in figure 1 of Gupta shows that Gupta is concerned with architectural synthesis and not logical synthesis. This is further evidenced by pg. 16, lines 8-10 of Applicant’s specification, which describes the input to the design process as a register transfer level textual description (i.e., RTL) of the design and figure 1 of Gupta which describes RTL generation as being a last step of the process disclosed in Gupta.

In addition, Gupta does not teach or suggest *during logical synthesis of a circuit design, determining a structural metric from a property of a the network graph*. Since Gupta does not teach or suggest use of a network graph during logical synthesis, it also follows that Gupta does not teach or suggest *generating a structural metric from a property of the network graph*.

In addition, with respect to claim 14, the Examiner has not applied the proper analysis in the interpretation of “*means for creating a structural metric*” and other limitations. As explained in MPEP 2182, under *Donaldson* an examiner carries the initial burden of proof for showing that the prior art structure or steps is the same or equivalent to the structure, material, or acts described in the specification which have been identified as corresponding to the claimed means for step plus function.” Acts of *creating a structural metric* are at least described in pg. 14, line 3- pg. 15 – line 11 of Applicants’ specification. The Examiner has failed to satisfy the above initial burden since the Office Action provides no analysis of how prior art structures or steps of Gupta are the same or equivalent to the acts of *creating a structural metric* described in Applicant’s specification.

Accordingly, at least for the foregoing reasons, claims 1, 13, and 14 are believed to be patentable over Gupta. Moreover, claims 2-12 are believed patentable at least by virtue of their dependence from claim 1.

In view of the foregoing remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration is respectfully requested.

Respectfully submitted,

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